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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/510,074	02/22/2000	Nobuhisa Aoki	FUJX17.079	2769

7590 11/10/2005

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EXAMINER
PAN, YUWEN

ART UNIT	PAPER NUMBER
2682	

DATE MAILED: 11/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/510,074	AOKI ET AL.	
	Examiner	Art Unit	
	Yuwen Pan	2682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 September 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *33-77* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *33-77* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/19/05 has been entered.

DETAILED ACTION

Response to Arguments

2. Applicant's arguments with respect to claims 33-77 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

3. Claim 34 is objected to because of the following informalities: a claim should be in a complete sentence with only period at the end. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 33-77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakano et al (US005873028A) in view of Odenwalder (US006603751B1) and Blakeney, II et al (US005267261A).

Per claim 33, Nakano discloses a mobile station in a mobile communication comprising: a time unit for determining based upon a received downlink signal, timing for sending an uplink signal, a receiving unit for receiving a plurality of downlink signals from a plurality of base stations in a soft handoff mode with the mobile and a controller (see figure 7, item 61, column 7, lines 34-36, column 10, lines 17-23). Nakano doesn't expressly teaches that the controller has functions of determining a window of time for receiving downlink signals from the plurality of base stations, said controller determining the window of time based upon the determined timing for sending an uplink signal said controller controlling processing of downlink signals from the plurality of base stations such that only downlink signals having a receive timing during the window of time will processed affect an uplink signal, and receiving a plurality of downlink signals from a plurality of base stations.

Odenwalder teaches that a method and system fro performing a handoff in a wireless communication system has a controller that determines a window of time for receiving downlink signals from the plurality of base stations, said controller determining the window of time based upon the determined timing for sending an uplink signal said controller controlling processing of downlink signals from the plurality of base stations such that only downlink signals having a receive timing during the window of time ill processed affect an uplink signal (see figure 3, column 5 and line 56-column 6 and line 28). It would have been obvious to one ordinary skill in the art at the time the invention was made to combine the teaching of Odenwalder with the system of Nakano such that the searching time fore a better base station is minimized.

Blakeney teaches that a mobile station receives signals that are from a plurality of base stations in the mobile station system (see figure 1). It would be obvious to one ordinary skill in

the art at the time the invention was made to have the mobile device receiving a plurality of channels from more than one base station such that a best channel would be obtained in case of hand off (see column 5 and lines 56-64).

Same arguments apply, mutatis mutandis, to independent claims 34, 36, 41, 62, 66, 71, 72, 75, and 76.

Per claims 35 and 37, Nakano et al further disclose predetermined period is for a processing time required to generate the transmit power control data (see column 7 and lines 43-54).

Per claim 38, Nakano et al disclose a mobile station in a mobile communication system (see figure 7), comprising:

A receiving unit for receiving transmission signals respectively transmitted in parallel from a plurality of base stations in the mobile communication system (see figure 7, item 45, column 2 and lines 50-54),

A channel control unit for determining from at least one of said transmission signals a channel control timing for controlling the transmit timing from the mobile station (see column 10 and lines 12-23, 37-41), and processing the received transmission signals and providing an output to be included in a next uplink signal according to said channel control timing (see column 7, lines 33-37, lines 44-50), and

A processing unit (see figure 7, item 49, 51) for processing the received transmission signals and providing a response.

Nakano doesn't explicitly teach that received signals are from a plurality of base stations in the mobile station system, the controller has functions of determining a window of time for receiving downlink signals from the plurality of base stations, said controller determining the window of time based upon the determined timing for sending an uplink signal said controller controlling processing of downlink signals from the plurality of base stations such that only downlink signals having a receive timing during the window of time will processed affect an uplink signal.

Odenwalder teaches that a method and system fro performing a handoff in a wireless communication system has a controller that determines a window of time for receiving downlink signals from the plurality of base stations, said controller determining the window of time based upon the determined timing for sending an uplink signal said controller controlling processing of downlink signals from the plurality of base stations such that only downlink signals having a receive timing during the window of time ill processed affect an uplink signal (see figure 3, column 5 and line 56-column 6 and line 28). It would have been obvious to one ordinary skill in the art at the time the invention was made to combine the teaching of Odenwalder with the system of Nakano such that the searching time fore a better base station is minimized.

Blakeney teaches that a mobile station receives signals that are from a plurality of base stations in the mobile station system (see figure 1). It would be obvious to one ordinary skill in the art at the time the invention was made to have the mobile device receiving a plurality of channels from more than one base station such that a best channel would be obtained in case of hand off (see column 5 and lines 56-64).

Same arguments apply, mutatis mutandis, to independent claim 39, 42, and 61.

Per claim 40, Nakano et al disclose a mobile station in a mobile communication system where a mobile station is simultaneously connected with a plurality of base stations via a plurality of radio channels and where the mobile station provides transmit power control data useful in controlling the transmit power of the base stations (see figure 4 and 7, items 51, column 2, lines 46-58), comprising: a determining unit for determining a minimum processing period for processing a downlink frame to provide transmit power control data to the base stations in a next uplink frame while maintaining channel timing control (see column 7 and lines 35-36, column 8 and lines 19-23),

Per claim 44, Nakano et al further disclose said receiving unit obtains an individual point of time that each radio wave of said plurality of radio waves is received and measures a transmission quality for each of said plurality of radio waves (see column 7 and lines 44-50); said channel controlling unit determines a point in time, at which said transmission wave is to be transmitted, which is relative to a result of averaging the sum of products of said individual points in time and said transmission quality measured by said receiving unit from said any radio wave received during said period of time(see column 7 and lines 2-50); and

Said transmission unit transmits said transmission wave (s) at said point in time obtained by said channel controlling unit (see column 7 and lines 2-9).

Per claims 47, Nakano et al further disclose plurality of radio waves reach said radio terminal equipment individually and sequentially in a cycle having a nearly equal nominal value, and said period given in advance is given as a subset of each period in which said radio waves

can be received by said receiving unit, and which is subsequent to said individual points in time at which said plurality of radio waves individually reach the receiving unit during the period in said cycle which precedes said period given as the subset of each period (see column line 44-50, column 8 and line 1-25).

Per claim 43, Nakano et al further disclose the radio terminal equipment as claimed in claim 42, wherein said period of time is a period given in advance to said channel controlling unit and is relative to a point in time at which a specific one of said plurality of radio waves is received by said receiving unit (see column 7 and lines 44-50).

Per claims 45, 46, Nakano et al further disclose plurality of radio waves reach said radio terminal equipment individually and sequentially in a cycle having a nearly equal nominal value, and said period given in advance is given as a subset of each period in which said radio waves can be received by said receiving unit, and which is subsequent to said individual points in time at which said plurality of radio waves individually reach the receiving unit during the period in said cycle which precedes said period given as the subset of each period (see column line 44-50, column 8 and line 1-25).

Per claim 48, Nakano et al further disclose plurality of radio waves reach said radio terminal equipment individually and sequentially in a common cycle having a nearly equal nominal value, and said period given in advance is a subset of each period from the earliest point in time, at which any one of said plurality of radio waves reach the receiving unit during a period

in said cycle which precedes said period given as the subset of each period, to the latest point in time at which any of a following said plurality of radio waves reach the receiving unit (see column line 44-50, column 8 and line 1-25).

Per claim 50, Nakano et al further disclose channel controlling unit determines lengths of time needed for both said processing said radio waves received by said receiving unit (see column 8 and line 1-14) and said processing to be done on responses transmitted by said transmission unit, wherein the processing done by said radio station connected through said radio transmission path includes processing one or more of said radio waves received during a period where said lengths of time needed for the processes are suitable for the system of said channel control (see column 7 and lines 28-59).

Per claim 51, Nakano et al further disclose at least one of said lengths of time needed for the processes to be done on said radio waves received by said receiving unit and/or said process done by said radio station connected through said radio transmission path to be done on said response transmitted by said transmission unit vary in accordance with an event which can be identified by said channel controlling unit while executing said channel control procedure, and said channel controlling unit determines said lengths of time needed for the processes in accordance with said event identified under said channel controlling procedure (see column 7 and lines 1-10, 28-59, column 8 and line 1-25).

Per claim 52, Nakano et al further disclose channel controlling unit determines said lengths of time needed for the processes to be done on said radio wave received by said receiving unit under said channel controlling procedure with a level of accuracy which will compensate for at least one of a fall in the transmission rate of said radio transmission path and/or a deviation of said radio waves (see column 6 and line 25-41, column 7 line 55- column 8 and line 15).

Per claims 53 and 54, Nakano et al further disclose channel controlling unit during the execution of said processing restricts the operation of composing elements to processing said radio waves received by said receiving unit under said channel controlling procedure, said composing elements including said receiving unit, said channel controlling unit, and said transmission unit (see column 7 and lines 44-59).

Per claim 55, Nakano et al further disclose plurality of radio waves respectively reach said radio terminal equipment individually and sequentially in a cycle and contain control information on transmitting power control, and said channel controlling unit controls the transmitting power responsive to said control information included in a specific radio wave of said plurality of radio waves reached during a preceding period, through at least one of said receiving unit and said transmission unit (see column 7 and lines 2-11).

Per claim 56, Nakano et al further disclose channel controlling unit monitors at least one of a transmission quality and a field strength level of a radio wave received by said receiving unit per wireless zone on the basis of zone configuration and channel allocation, and performs a

channel control of a wireless zone which has the highest transmission quality (see column 6 and lines 25-52, column 12 and lines 48-60).

Per claims 57 and 58, Nakano et al further disclose a demodulating unit for acquiring transmission information by one of demodulating at least part of said radio waves, which are the object of the processing by said channel controlling unit and by demodulating said radio waves under predetermined weighting (see figure 7 items 49, column 6 and line 64- column 7 and line 11).

Per claim 59, Nakano et al further disclose channel controlling unit determines a point in time at which said transmission wave is to be transmitted to said radio transmission path, and said transmission unit transmits said transmission wave at said point in time determined by said channel controlling unit (column 6 and line 64- column 7 and line 11).

Per claim 60, Nakano et al further disclose said point in time at which said transmission wave is to be transmitted to said radio transmission path fluctuates in accordance with events which can be identified by said channel controlling unit during said processing according to said channel control procedure (see column 6 and lines 24-52), and

Said channel controlling unit obtains said point in time at which said transmission wave is to be transmitted in accordance with said events identified under said channel controlling procedure (see column 7 and lines 44-59).

Per claim 49, Nakano et al further disclose plurality of radio waves reach said radio terminal equipment individually and sequentially in a common cycle having a nearly equal nominal value, and said period given in advance is a subset of each period from the earliest point in time, at which any one of said plurality of radio waves reach the receiving unit during a period in said cycle which precedes said period given as the subset of each period, to the latest point in time at which any of a following said plurality of radio waves reach the receiving unit (see column line 44-50, column 8 and line 1-25).

Per claims 63 and 67, Nakano et al further disclose channel control procedure includes processing to be done to said transmission wave(s) received by a radio station connected through said radio transmission path and which is also suitable for a transmission system in said radio transmission path (see column 7 and lines 1-25).

Per claims 64 and 68, Nakano et al further disclose determining the point in time responsive to the receiving step and the channel control procedure and said point in time is relative to a point in time at which a specific one of said plurality of radio waves is received (see column 7 and lines 44-50).

Per claims 65 and 69, Nakano et al further disclose determining an individual point of time that each radio wave of said plurality of radio waves is received; measuring a transmission quality for each of said plurality of radio waves; determining a transmission point in time, which is a point where said transmission wave is to be transmitted, and is relative to a result of

averaging the sum of products of said individual points in time and said transmission quality measured from said any radio wave received prior to said point of time; and said transmitting step transmits said transmission waves at said transmitting point in time (see column 6 and line 61- column 7 and line 59).

Per claim 70, Nakano et al disclose a method of generating transmit power control data to be transmitted in an uplink signal from a mobile terminal in a communication system, the mobile terminal capable of receiving a plurality of downlink signals (see column 2 and lines 47-58, column 7 and lines 33-36), comprising the steps of:

Determining a minimum processing time required to generate the transmit power control data such that the transmit power control data can be included in an uplink signal (see column 7 and lines 33-36, column 8 and lines 15-33, column 10, lines 12-19, lines 38-41),

Measuring a respective value of signal quality from each of a received plurality of downlink signals (see column 7 and lines 44-50), and

Generating the transmit power control data according to the measured value of signal quality of respective downlink signals received prior to the start of the minimum processing time (see figure 7, items 57, 59, 61, column 7, items 57 and 59, and lines 44-50, column 10 and lines 37-41).

Per claim 73, Nakano et al disclose a method of controlling transmission powers in a wireless mobile communication system where a mobile station is simultaneously connected with a plurality of base stations via a plurality of radio channels and where the mobile station provides

transmit power control data useful in controlling the transmit power of the base stations (see column 2 and lines 47-58, column 7 and lines 33-36), comprising the steps of:

Determining a minimum processing period for processing a downlink frame to provide transmit power control data to the base stations in a next uplink frame while maintaining channel timing control (see column 7 and lines 33-36, column 8 and lines 15-33, column 10, lines 12-19, lines 38-41),

Measuring a value of signal quality for each of the plurality of radio channels (see column 7 and lines 44-50), and

Generating transmit power control data to be included in the next frame, from the measured value of signal quality of respective radio channels received in between the minimum processing period (see figure 7, items 57, 59, 61, column 7, items 57 and 59, and lines 44-50, column 10 and lines 37-41).

Nakano doesn't expressly teaches that the controller has functions of determining a window of time for receiving downlink signals from the plurality of base stations, said controller determining the window of time based upon the determined timing for sending an uplink signal said controller controlling processing of downlink signals from the plurality of base stations such that only downlink signals having a receive timing during the window of time will processed affect an uplink signal, and receiving a plurality of downlink signals from a plurality of base stations.

Odenwalder teaches that a method and system fro performing a handoff in a wireless communication system has a controller that determines a window of time for receiving downlink signals from the plurality of base stations, said controller determining the window of time based

upon the determined timing for sending an uplink signal said controller controlling processing of downlink signals from the plurality of base stations such that only downlink signals having a receive timing during the window of time ill processed affect an uplink signal (see figure 3, column 5 and line 56-column 6 and line 28). It would have been obvious to one ordinary skill in the art at the time the invention was made to combine the teaching of Odenwalder with the system of Nakano such that the searching time fore a better base station is minimized.

Blakeney teaches that a mobile station receives signals that are from a plurality of base stations in the mobile station system (see figure 1). It would be obvious to one ordinary skill in the art at the time the invention was made to have the mobile device receiving a plurality of channels from more than one base station such that a best channel would be obtained in case of hand off (see column 5 and lines 56-64).

Same arguments apply, mutatis mutandis, to independent claim 74.

Per claim 77, Odenwalder further teaches that the uplink signal has transmit power controlled according to the processing result from the downlink signals from the base stations in a handoff mode with the terminal received during the window of time (see column 6 and lines 21-28).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yuwen Pan whose telephone number is 571-272-7855. The examiner can normally be reached on 8-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Quochien Vuong can be reached on 571-272-7902. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Yuwen Pan
November 3, 2005

11/04/05

QUOCHIEN B. VUONG
PRIMARY EXAMINER